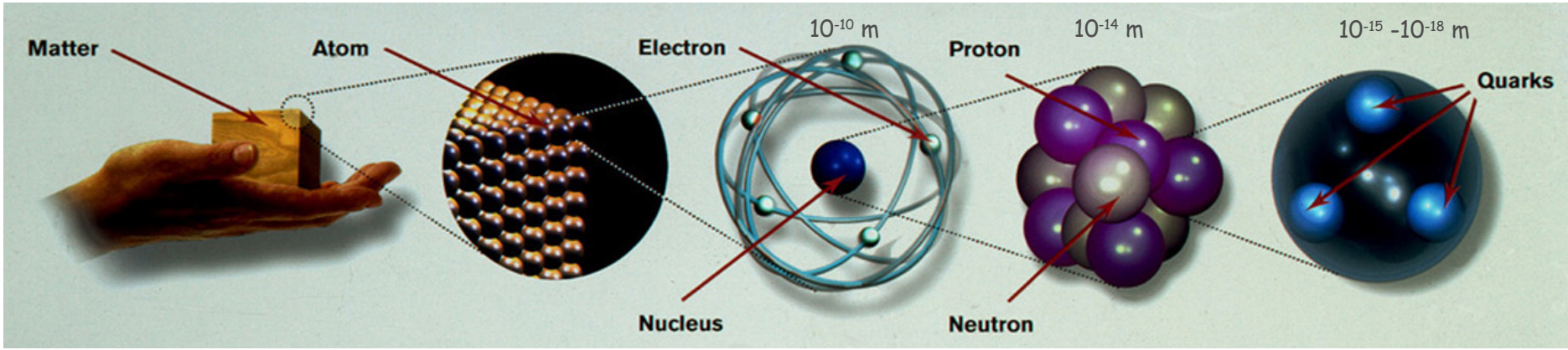

CERN

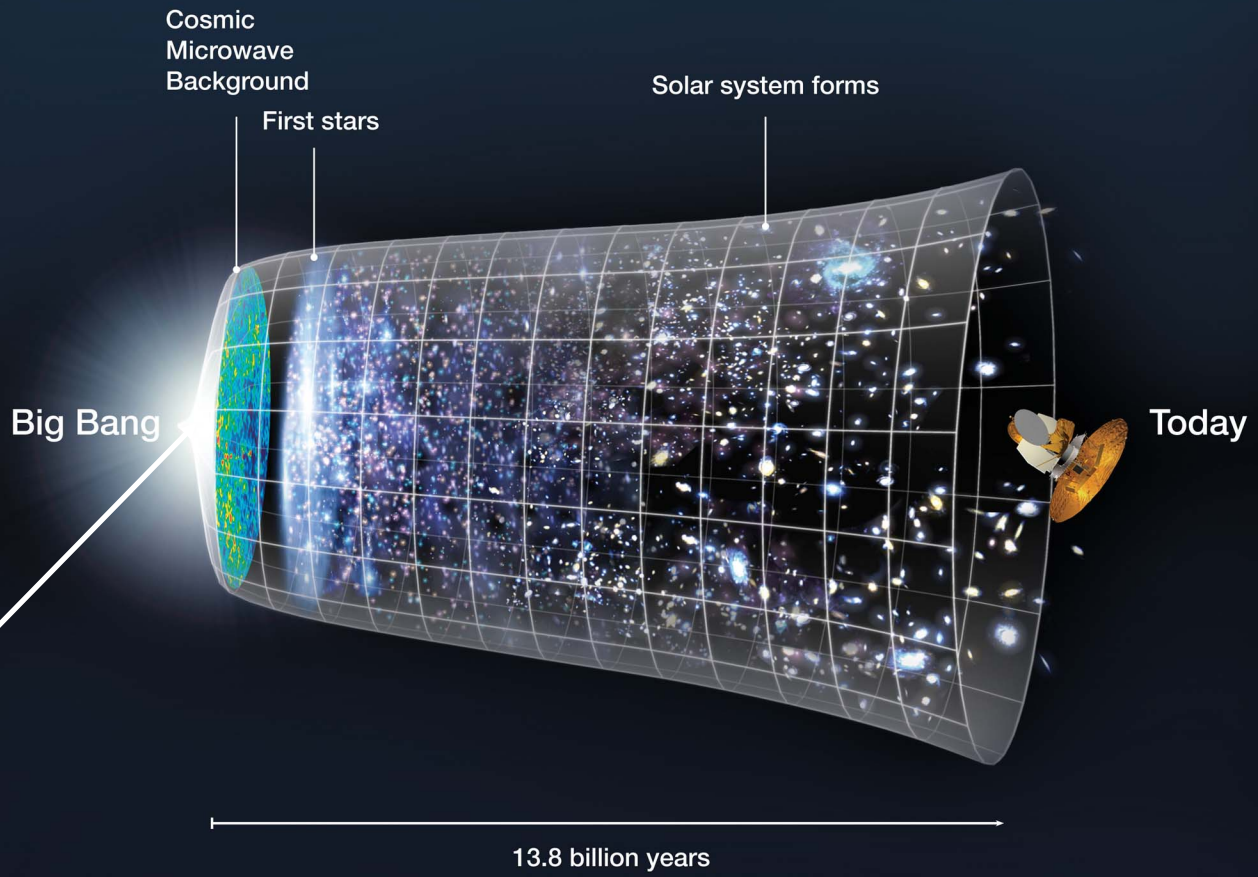
Ana Godinho & Mario Campanelli
CERN


WAS SIND WIR ?
DA DOVE VENiAMO ?
CHE COSA SIAMO ?
Odkud jsme přišli?
QUE SOMMES NOUS ?
Kam jdeme?
WHERE DO WE COME FROM ?
DOVE ANDIAMO ?
WHERE ARE WE GOING ?
WOHIN GEHEN WIR ?
D`OÙ VENONS NOUS ?
WOHER KOMMEN WIR ?
¿ QUÉ SOMOS ?
¿ DE DÓNDE VENIMOS ?
WHAT ARE WE ?
Co jsme se o?
OÙ ALLONS NOUS ?
¿ A DÓNDE VAMOS ?

We study the elementary building blocks of matter…

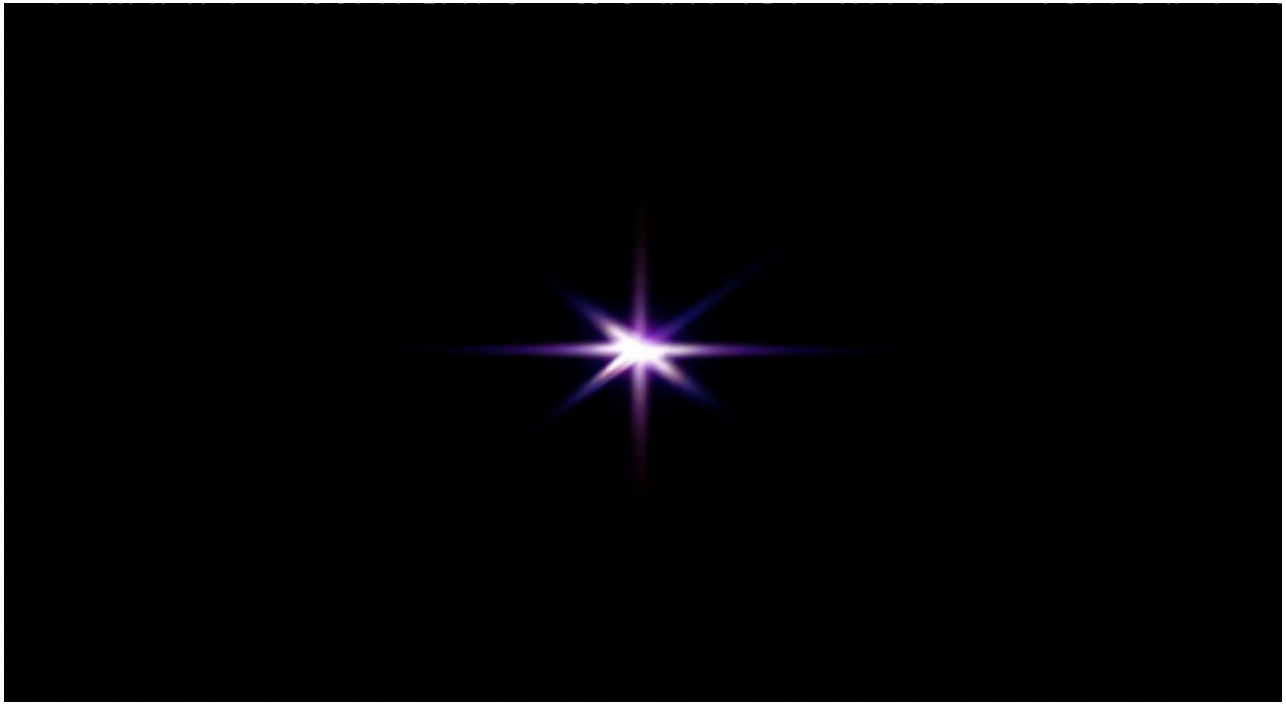


…and the forces that control their behaviour.



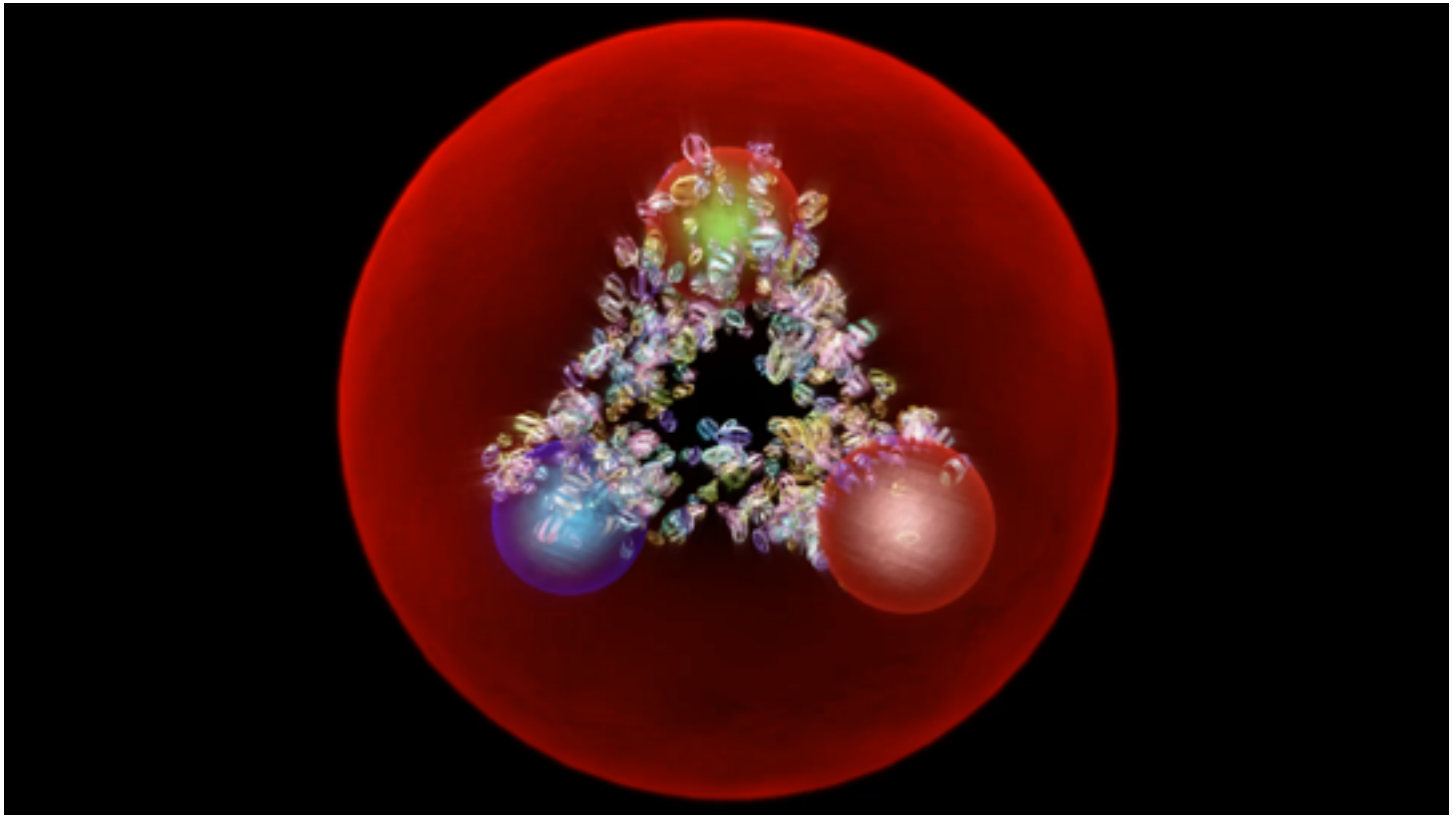
Particle physics reproduces the conditions of the Universe just after the Big Bang

In the first microsecond after the Big Bang

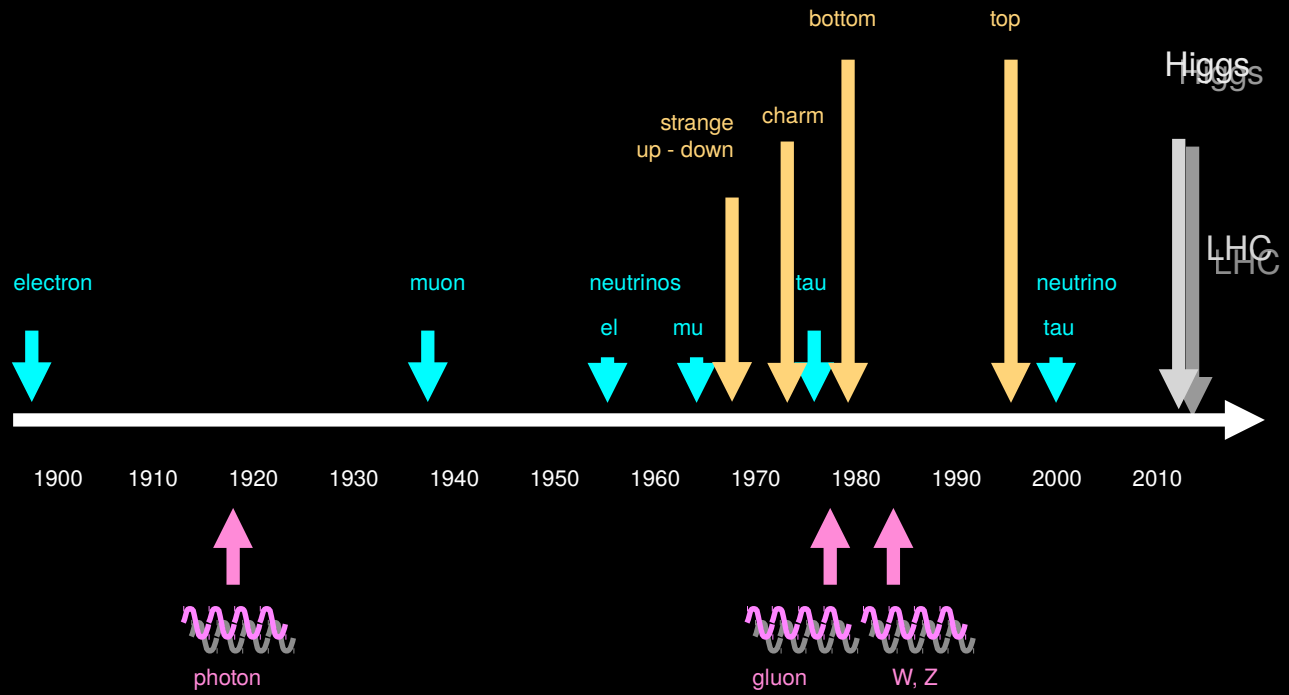


Energy transformed into particles

One microsecond after the Big Bang: protons and neutrons

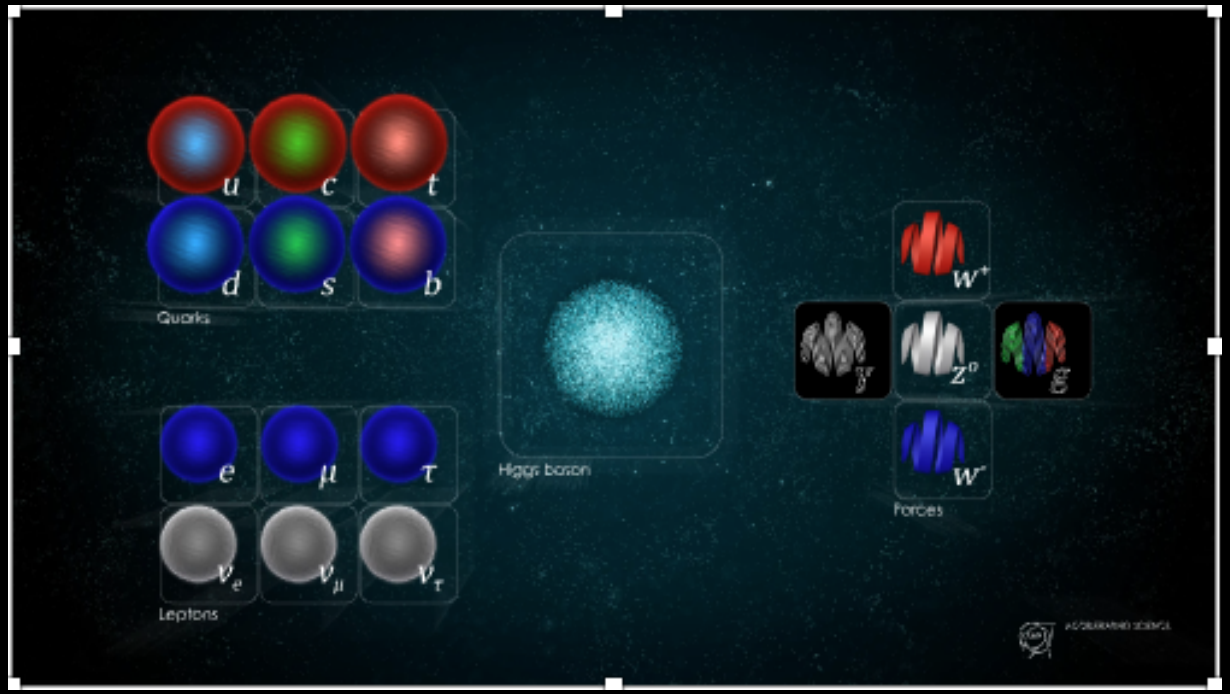


60 years of experiments at accelerators have discovered the set of fundamental particles

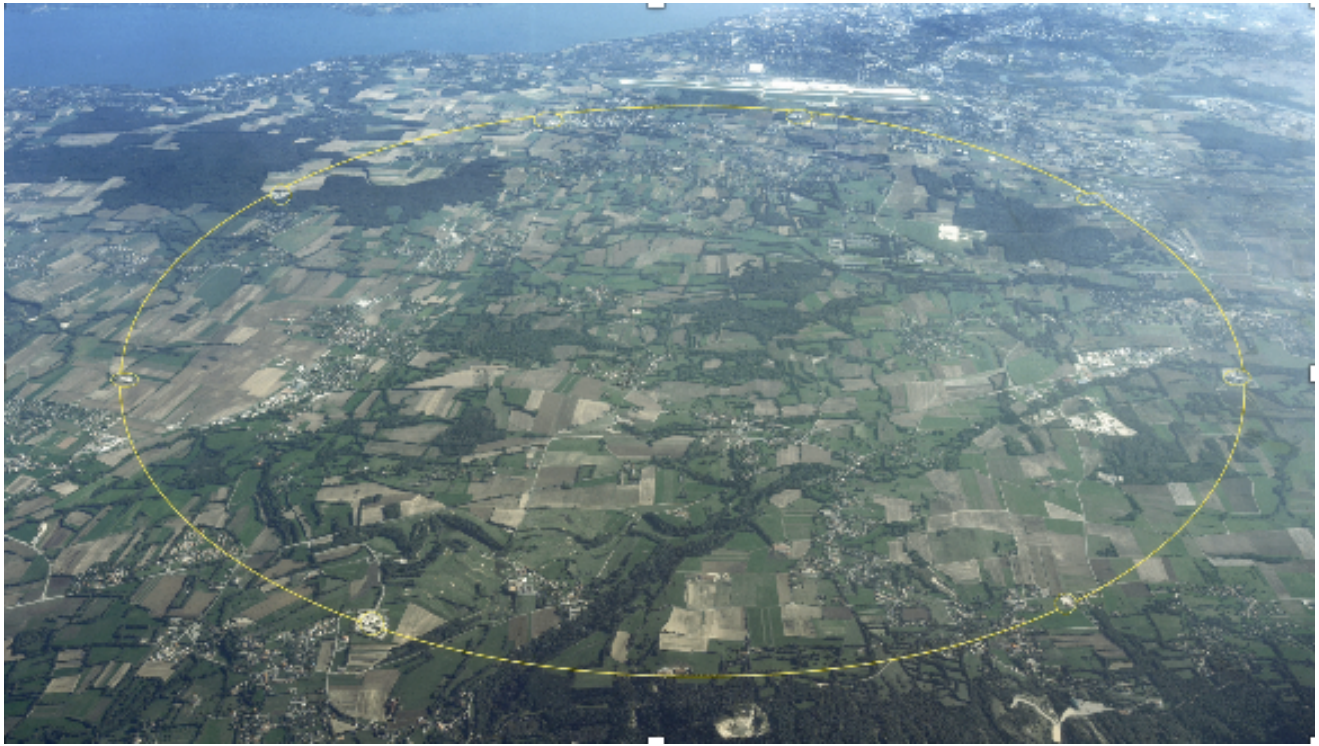


Standard model =

‘periodic table’ of elementary particles and their interactions



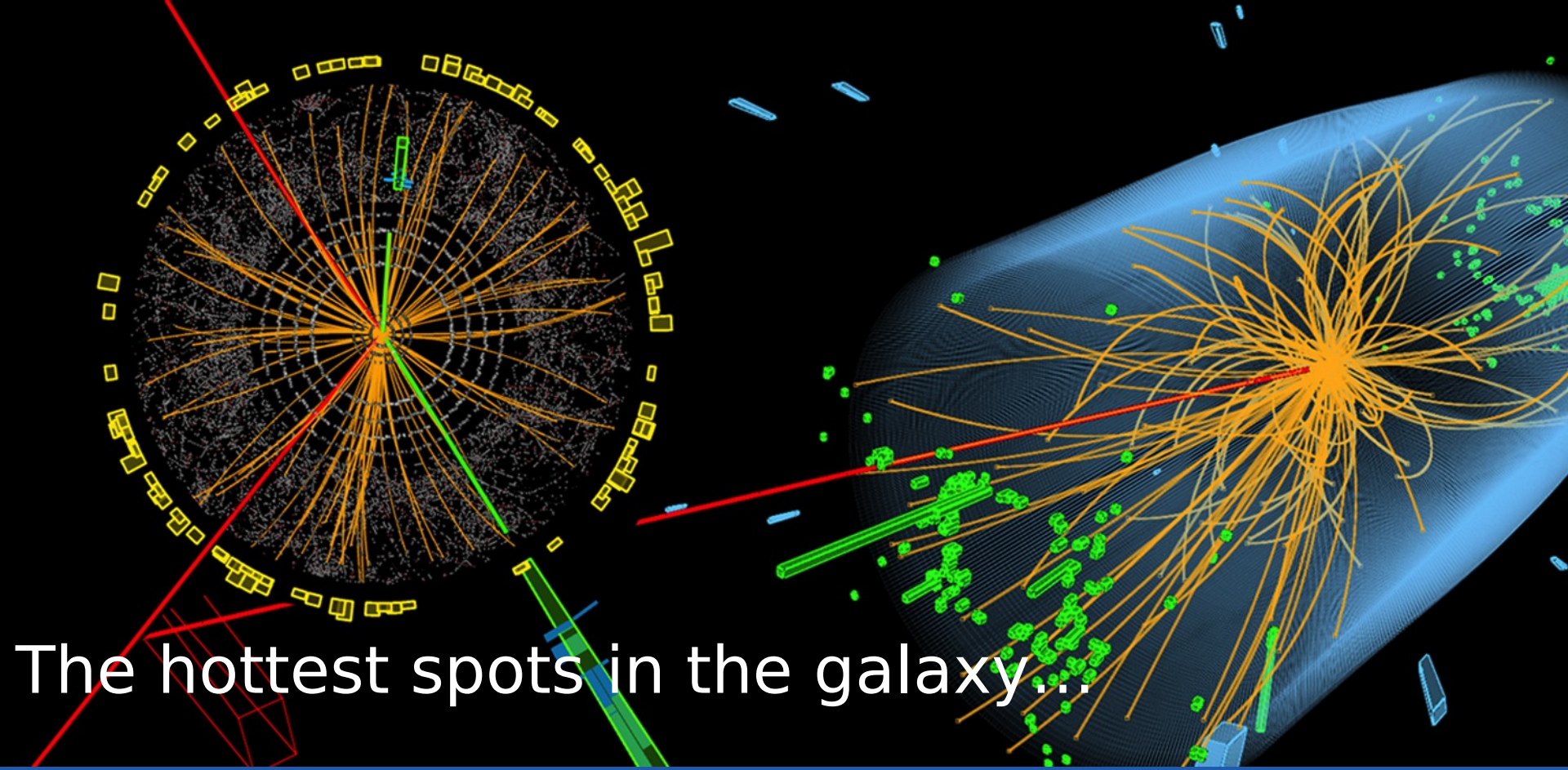
The Higgs boson was discovered at CERN, using the Large Hadron Collider (LHC)



The fastest racetrack on the planet...

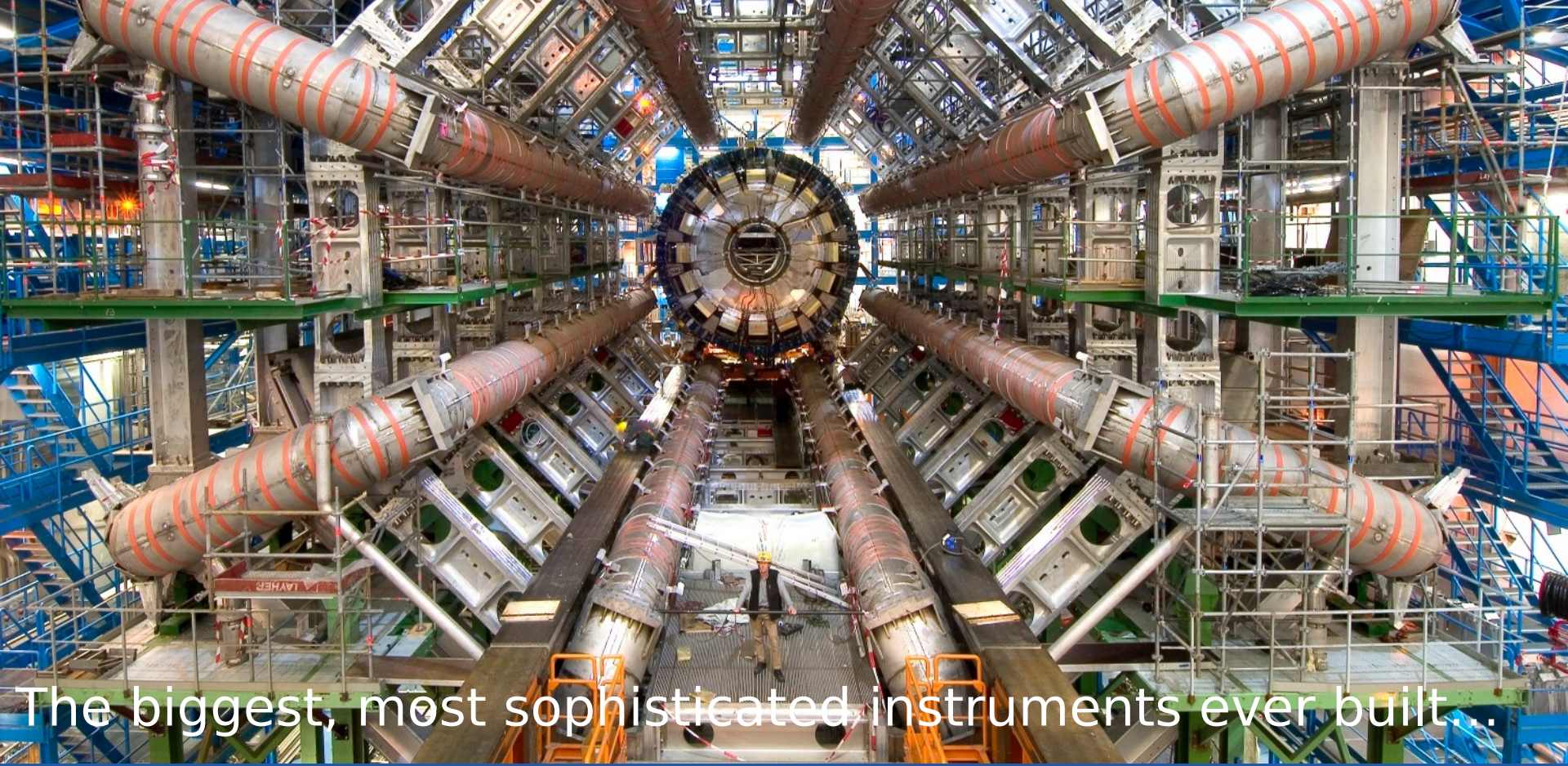
One of the emptiest places in the solar system…


One of the coldest places in the universe...

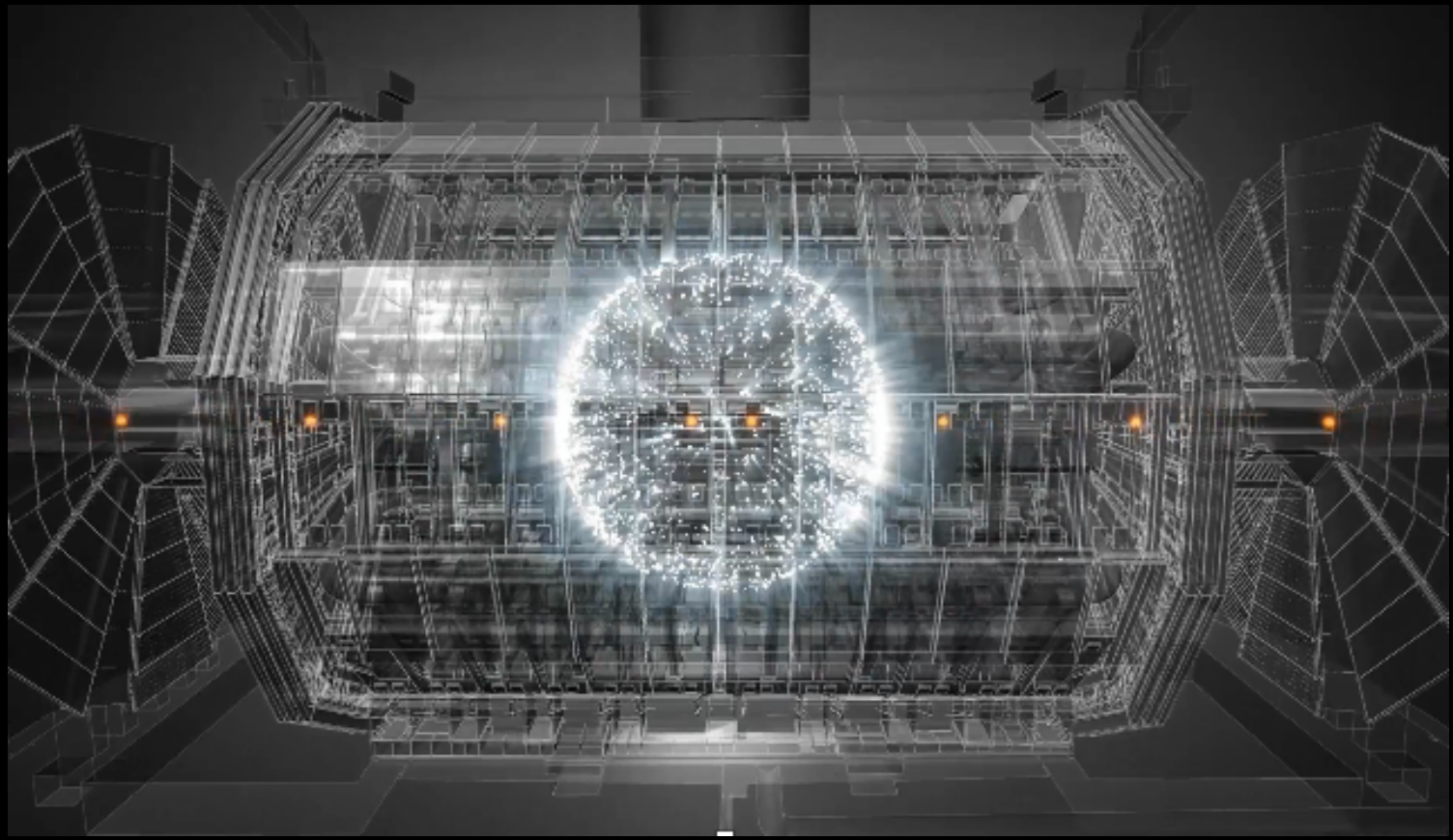


The hottest spots in the galaxy…

The biggest, most sophisticated instruments ever built...



The biggest, most sophisticated instruments ever built…



...and vast quantities of data...

We have great stories to tell

…about science…

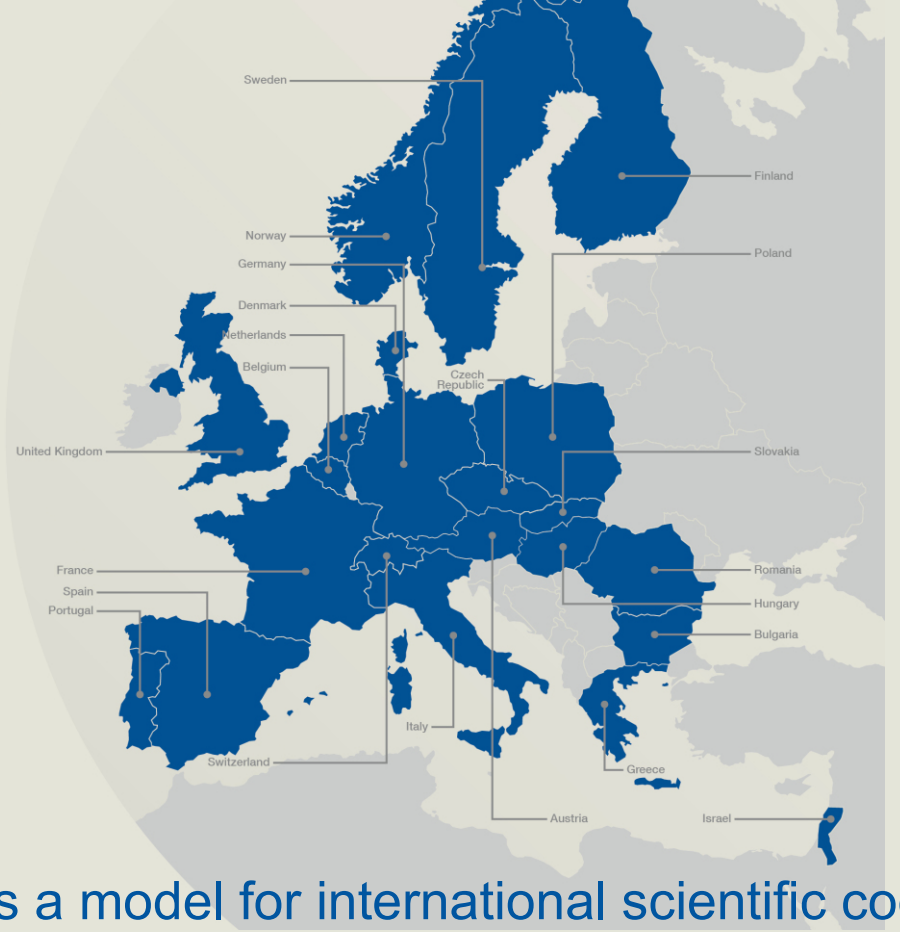
…about innovation…


…about peaceful collaboration…

The twenty two Member States of CERN

Member States (date of accession)

- Austria (1959)
- Belgium (1953)
- Bulgaria (1999)
- Czech Republic (1993)
- Denmark (1953)
- Finland (1991)
- France (1953)
- Germany (1953)
- Greece (1953)
- Hungary (1992)
- Israel (2014)
- Italy (1953)
- Netherlands (1953)
- Norway (1953)
- Poland (1991)
- Portugal (1986)
- Romania (2016)
- Slovakia (1993)
- Spain (1961-1968, 1983-)
- Sweden (1953)
- Switzerland (1953)
- United Kingdom (1953)



CERN is a model for international scientific cooperation

CERN

…about engaging the public…

CERN is open for visits 6 days a week

Can book online, from anywhere in the world
http://visit.cern/tours/guided-tours

Visit points on guided tours are a mix of real objects with multimedia

Virtual visits

From anywhere in the world. To a reange of sites across CERN

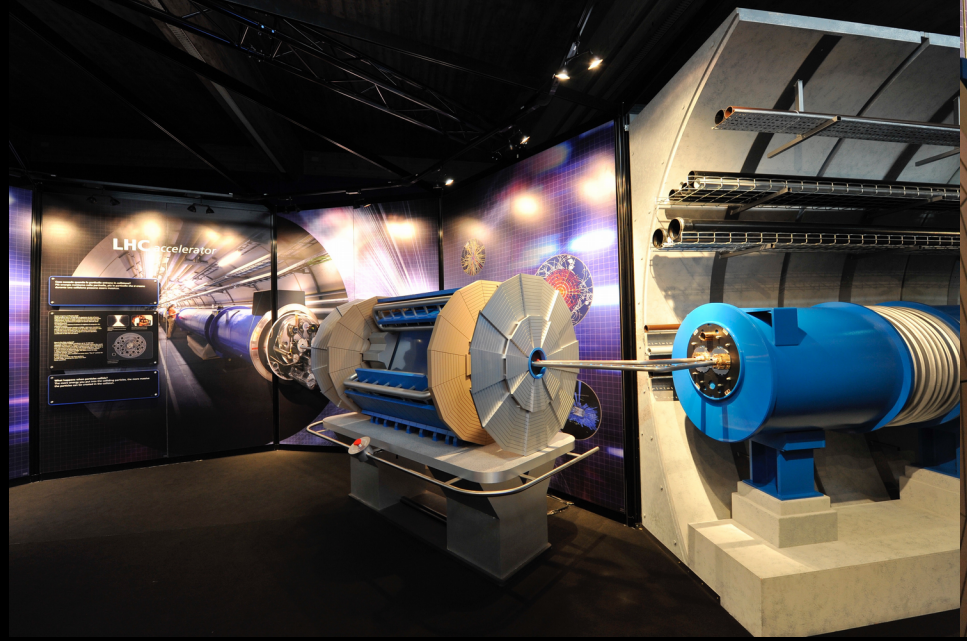
Universe of Particles exhibition

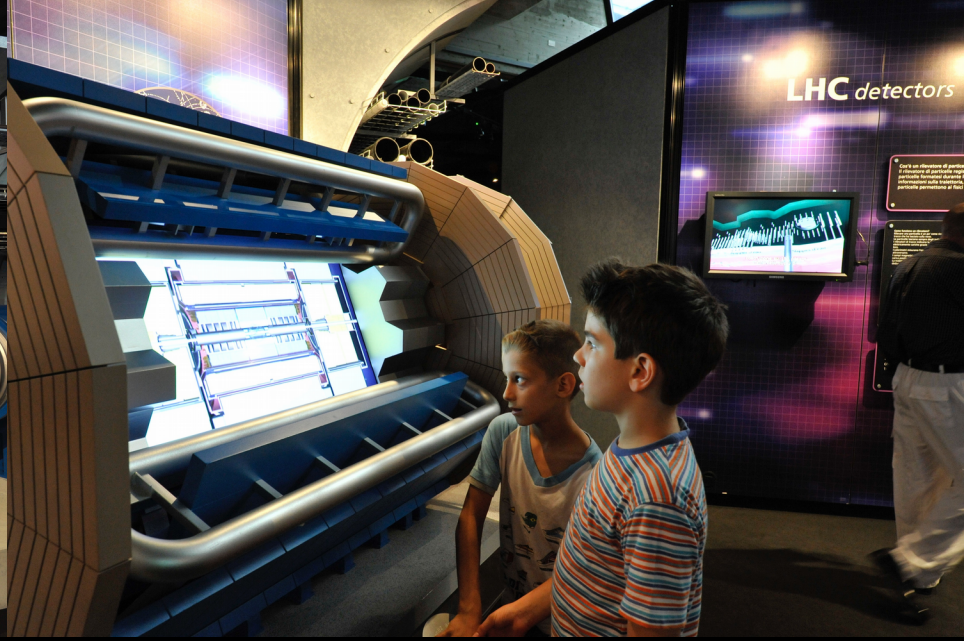
Number 2 attraction of Geneva region
(source: Geneva tourist office)

Microcosm exhibition – what, how, who?

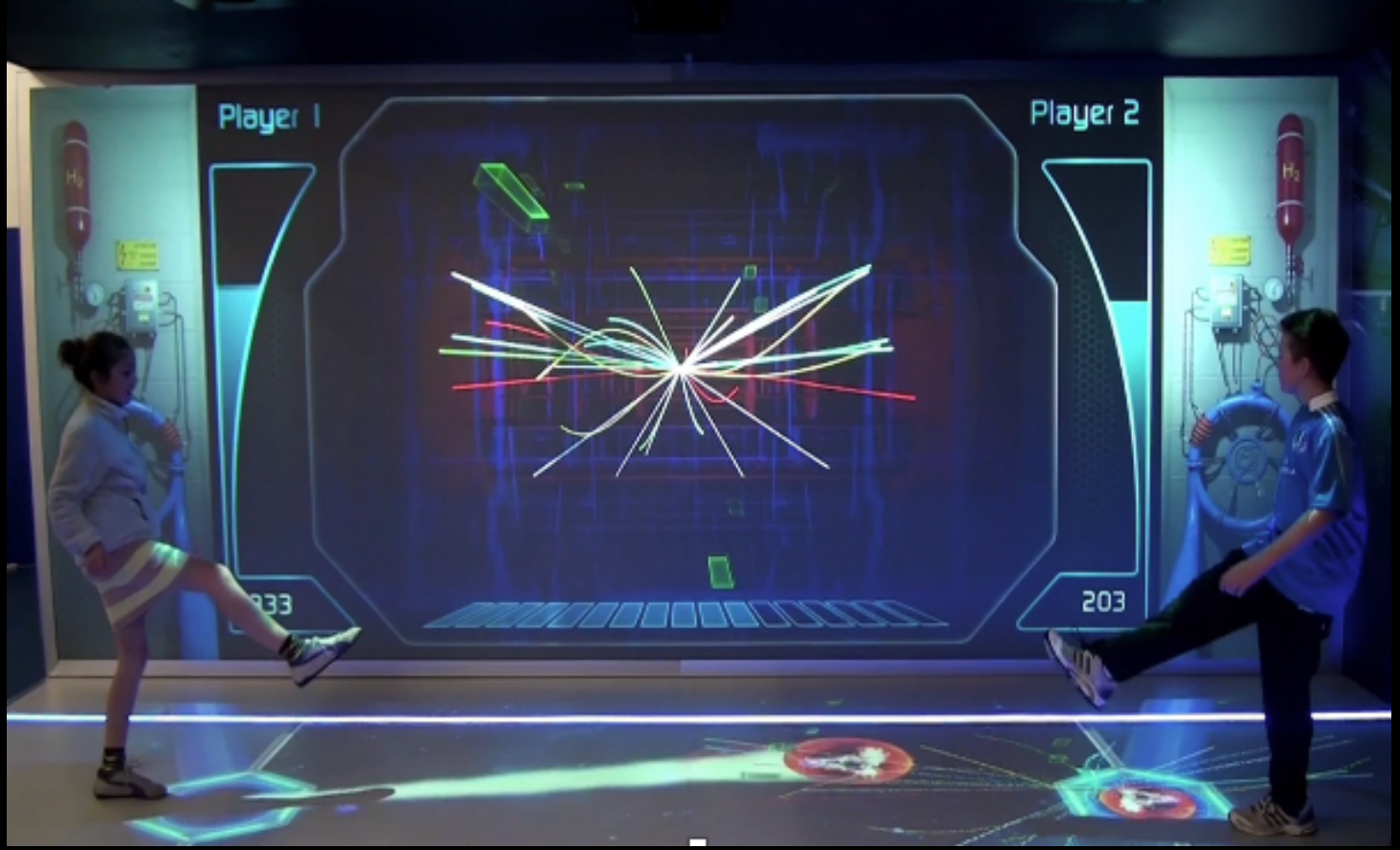
Guides are CERN staff, physicists and engineers

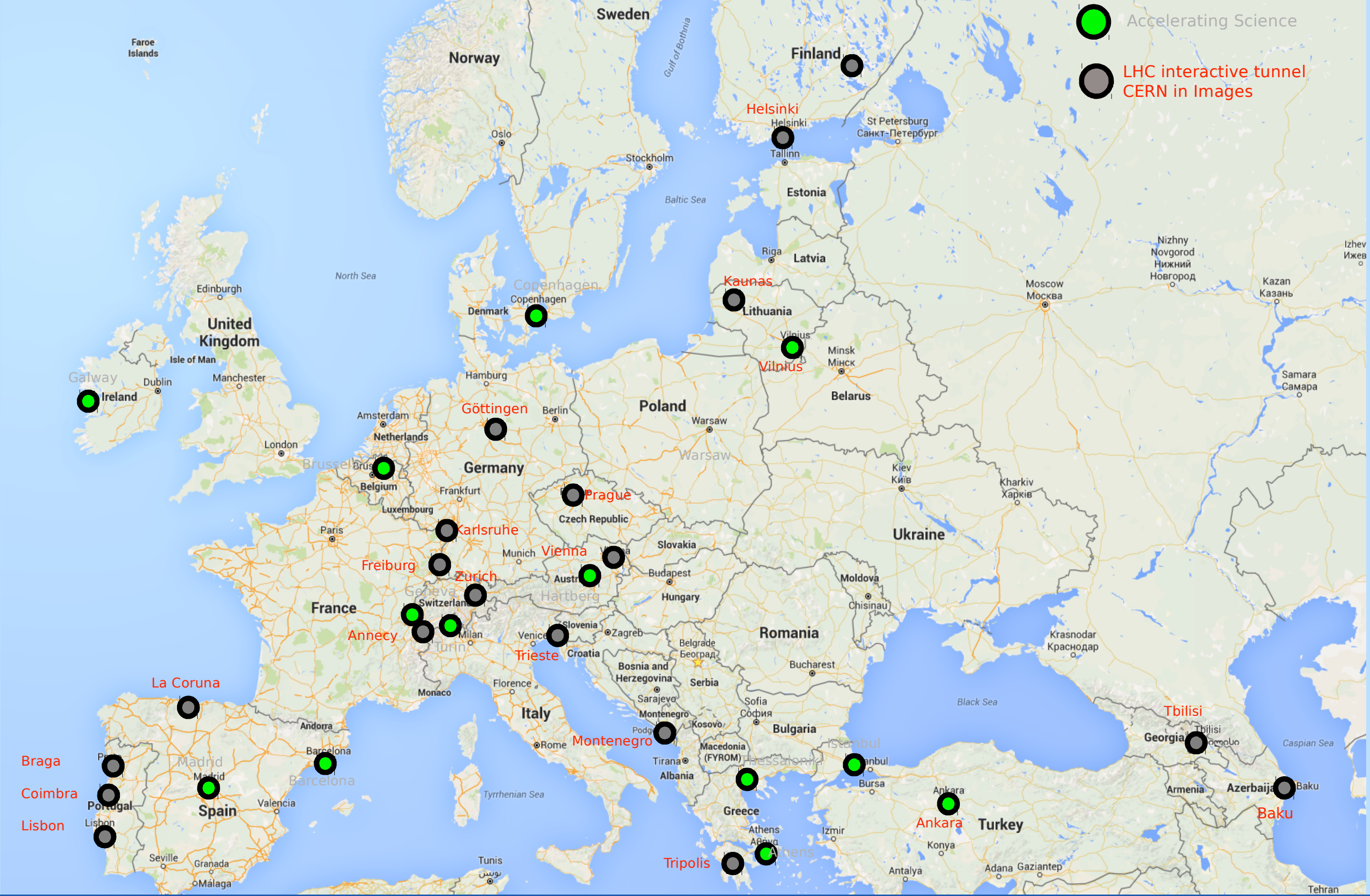
A unique opportunity to engage the public in particle physics and gain communication skills





Accelerating Science Travelling Exhibition


Player 1
Player 2
203


Accelerating Science
LHC interactive tunnel
CERN in Images
Helsinki
Kaunas
Vilnius
Göttingen
Prague
Karlsruhe
Vienna
Freiburg
Zurich
Annecy
Trieste
La Coruna
Montenegro
Braga
Coimbra
Lisbon
Tbilisi
Baku
Ankara
Tripolis

Build your own exhibition

CERN 60 > Multimedia > CERN exhibitions content

http://cern60.web.cern.ch/en/cern-exhibitions-content

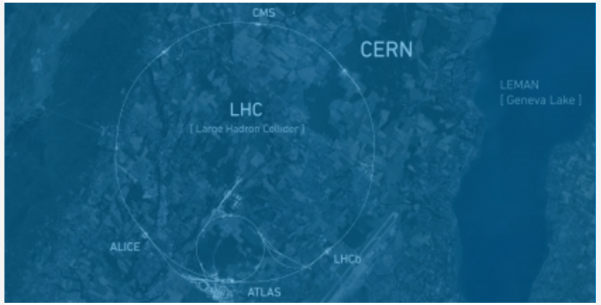
CERN60 RESOURCES

CERN EXHIBITION CONTENTS

- Overview
- Physics
- LHC Accelerators
- Experiments
- Computing
- Knowledge Transfer
- History

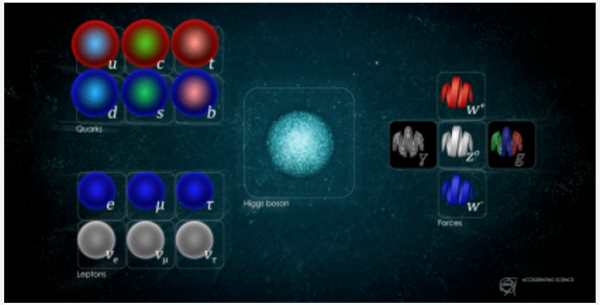
CERN exhibitions content

Overview



VIEW CONTENT >

Physics



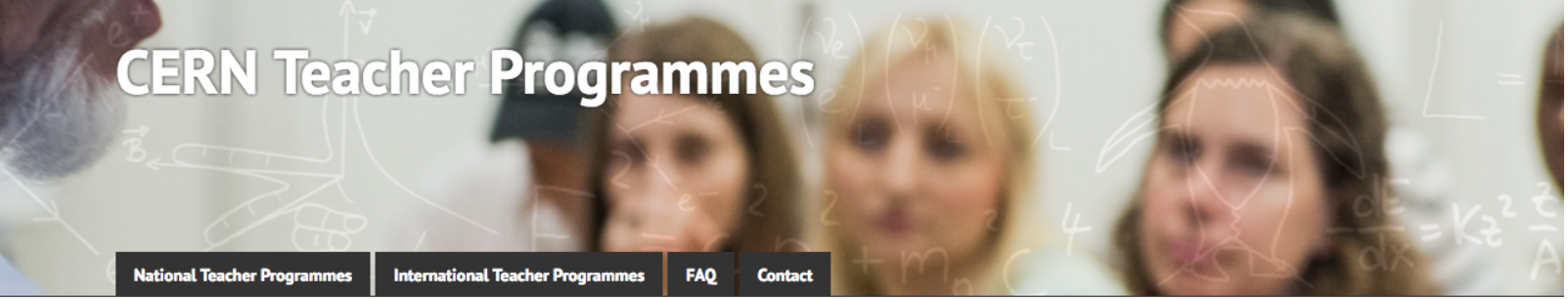
VIEW CONTENT >

Open Days during Long Shutdown periods

Unique opportunity to visit restricted sites: underground and on surface

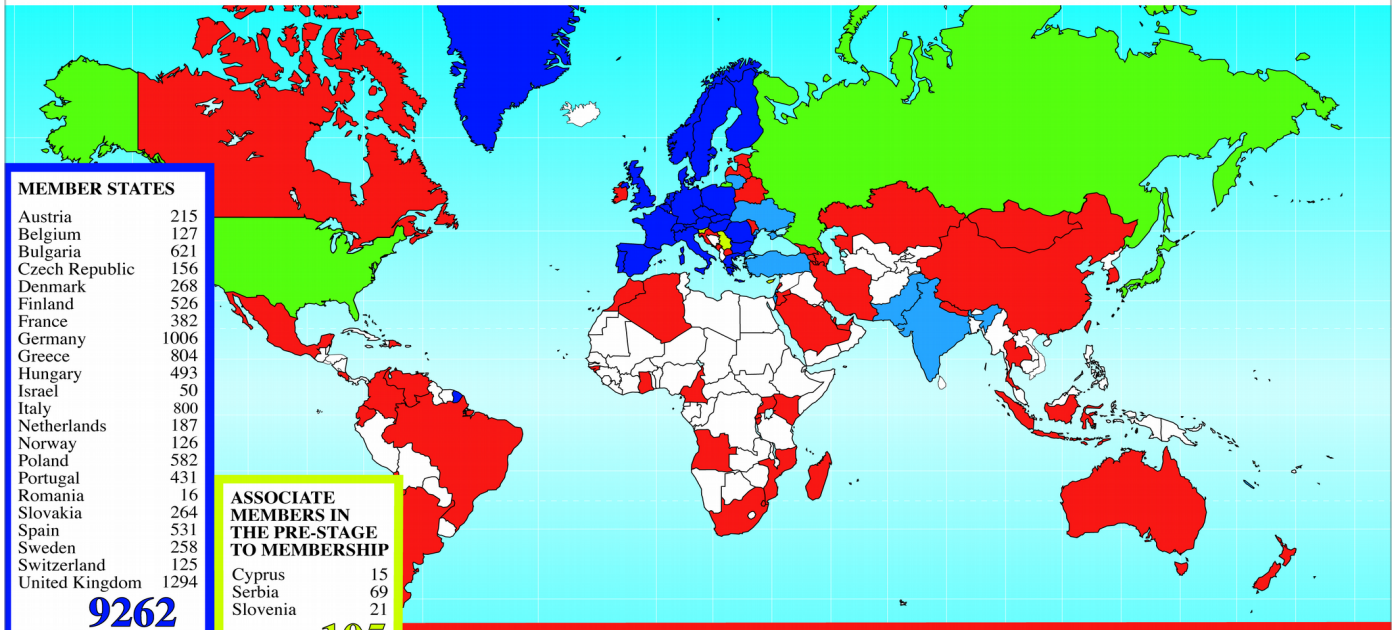
Approx. 70 000 visitors in 2013

Around 2 500 volunteers: staff, physicisits, engineers.



"There is nothing more enriching and gratifying than learning." [Fabiola Gianotti, CERN Director-General]

Teacher Programme Participants 1998 - 2017 (Total: 11414)



MEMBER STATES

Austria	215
Belgium	127
Bulgaria	621
Czech Republic	156
Denmark	268
Finland	526
France	382
Germany	1006
Greece	804
Hungary	493
Israel	50
Italy	800
Netherlands	187
Norway	126
Poland	582
Portugal	431
Romania	16
Slovakia	264
Spain	531
Sweden	258
Switzerland	125
United Kingdom	1294

9262

ASSOCIATE MEMBERS IN THE PRE-STAGE TO MEMBERSHIP

Cyprus	15
Serbia	69
Slovenia	21

105

ASSOCIATE MEMBERS

India	7
Lithuania	53
Pakistan	4
Turkey	282
Ukraine	155

501

OBSERVERS

Japan	10
Russia	387
USA	108

505

OTHERS

Algeria	9	Cameroon	7	Estonia	80	Lebanon	20	New Zealand	2	Thailand	16
Angola	7	Canada	11	Georgia	138	Macedonia	13	Palestine (O.T.)	4	Timor-Leste	9
Argentina	1	Cape Verde	4	Ghana	6	Madagascar	2	Qatar	1	Uganda	3
Armenia	3	Chile	3	Guinea Bissau	1	Malta	37	Rwanda	20	U.A.E.	1
Australia	9	China	2	Indonesia	1	Mexico	64	Sao Tome	7	Venezuela	1
Azerbaijan	2	Colombia	2	Iran	9	Moldova	4	Saudi Arabia	1		
Bahrain	2	Costa Rica	4	Ireland	9	Mongolia	1	Singapore	2		
Belarus	4	Croatia	53	Jordan	12	Montenegro	15	South Africa	8		
Brazil	209	Dominican Rep.	72	Kazakhstan	13	Morocco	2	South Korea	49		
Burundi	2	Ecuador	2	Kenya	4	Mozambique	22	Swaziland	1		
		Egypt	2	Latvia	49	Nepal	3	Taiwan	1		

1041

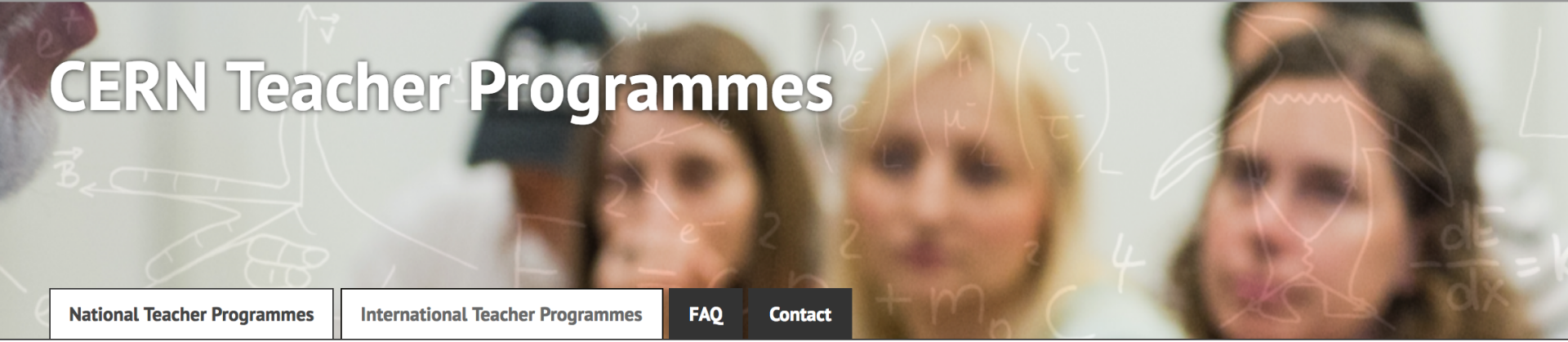
CERN Teacher Programmes

In 2017:

- 31 programmes
- 58 countries
- Around 1 000 teachers

http://teacher-programmes.web.cern.ch/ntp/national-teacher-programmes

Algeria
Austria
Belgium
Bulgaria
Croatia
Cyprus
Czech Republic
Denmark
…and more



International High School Teacher Programme (HST)

43 teachers; 34 countries

teacher-programmes.web.cern.ch/itp/hst

International Teacher Weeks Programme (ITW)

44 teachers; 37 countries

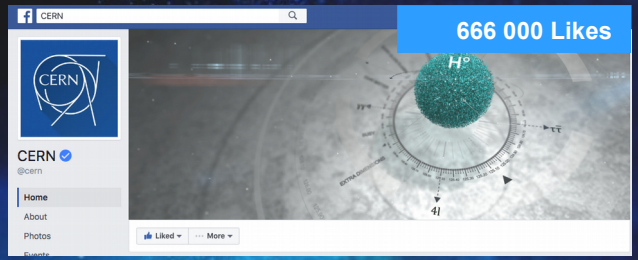
teacher-programmes.web.cern.ch/itp/itw

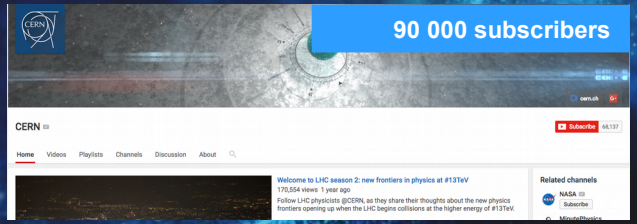
HST

ITW


S'Cool
LAB
There is always a way to do it
better... find it!
If you can't explain it simply,
you don't understand it well enc
CERN

Harnessing the power of social media





Content

Regular weekly posts:

#ThrowbackThursday

Guess What It Is

#FollowFriday

And also CERN's latest news

Fun stories

April Fools 2015 and 2017

Reaching new audiences

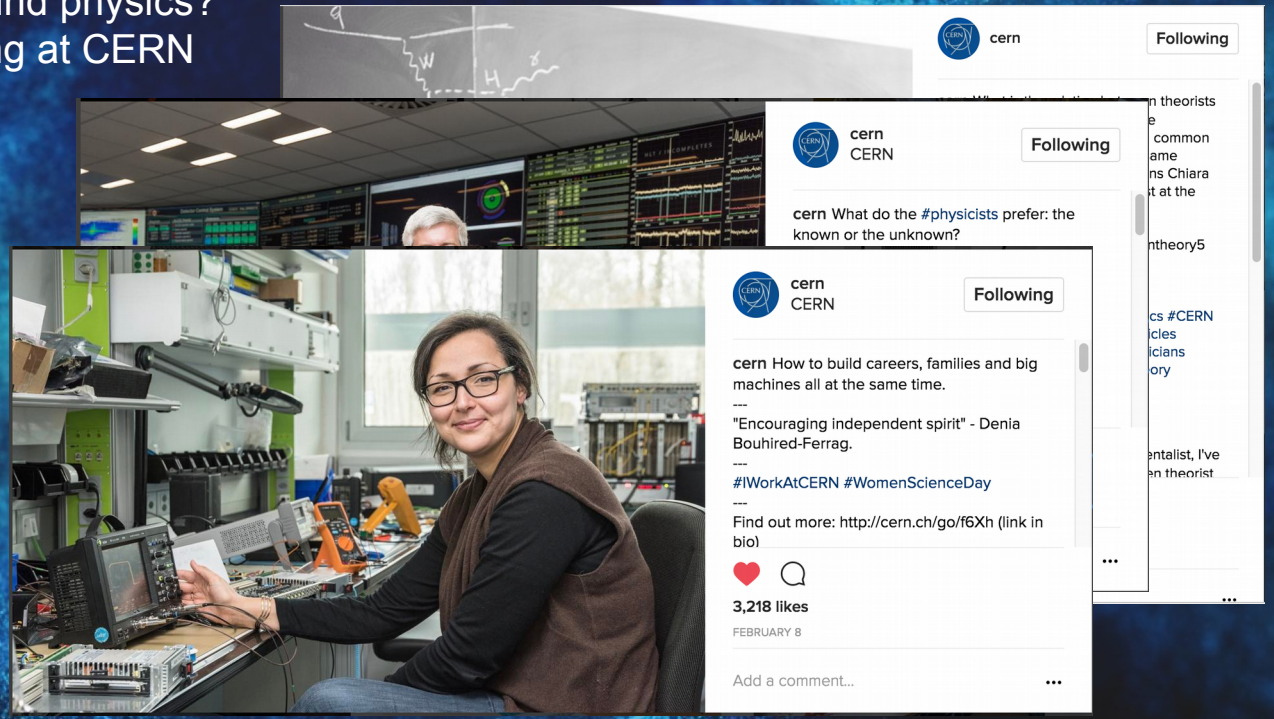
Tell human stories

Who is hiding behind physics?
Passion for working at CERN

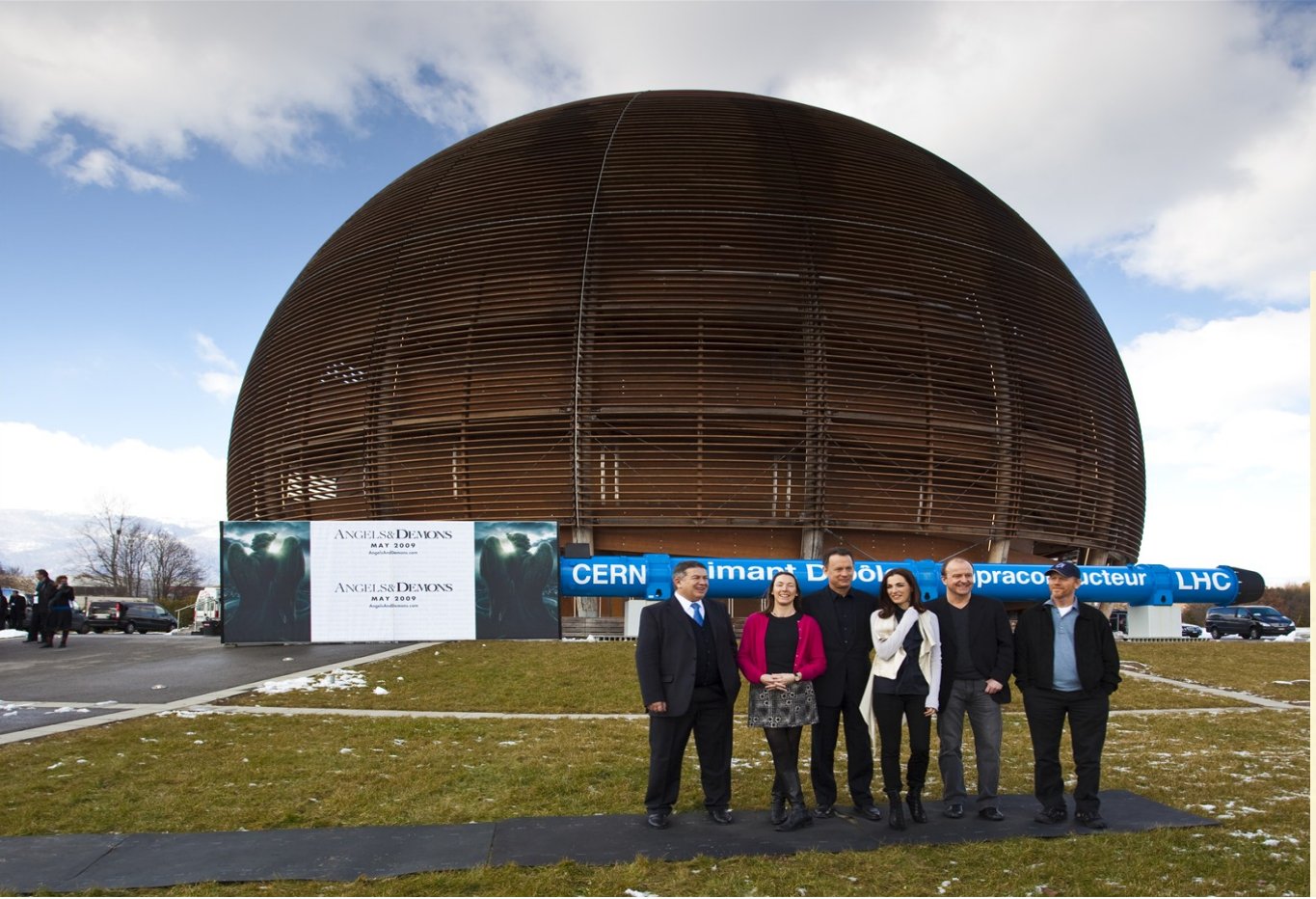
#InTheory

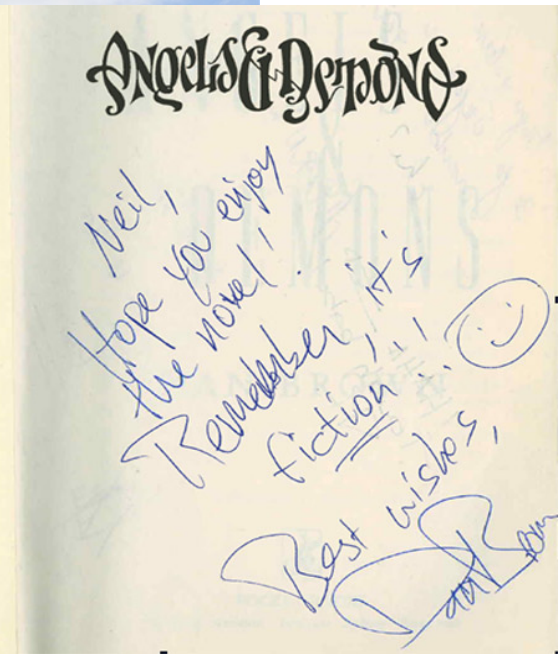
#InPractice

#IWorkAtCern



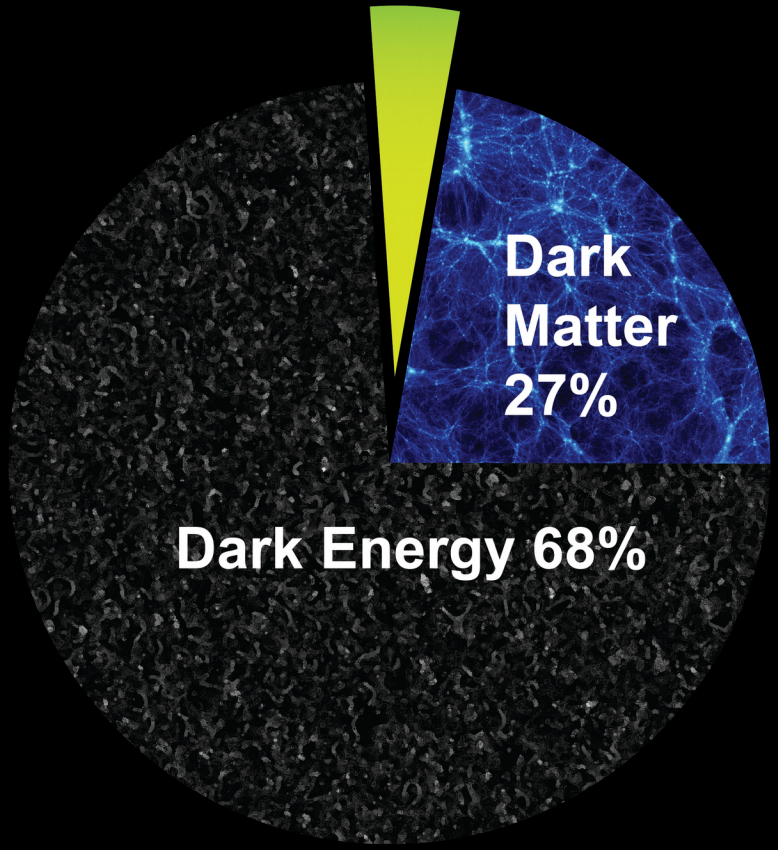
Sometimes others have great stories about us too…


ANGELS&DEMONS
MAY 2009
ANGELS&DEMONS
MAY 2009
CERN
LHC

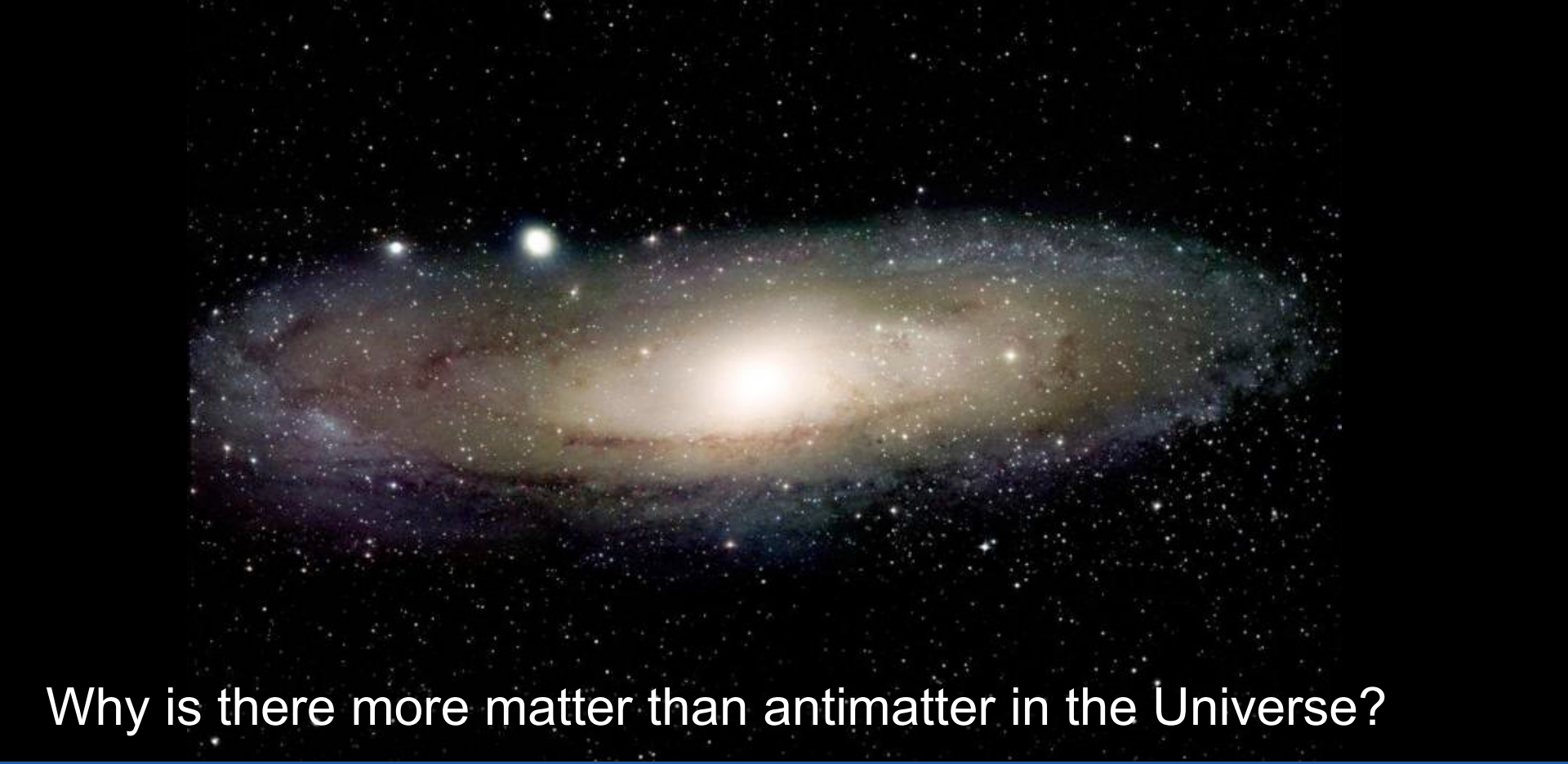

Angels & Demons
Neil,
Hope you enjoy
the novel!
Remember, it's
fiction...
Best wishes,

We will continue to have great stories to tell

Because finding the Higgs boson is not the end of particle physics

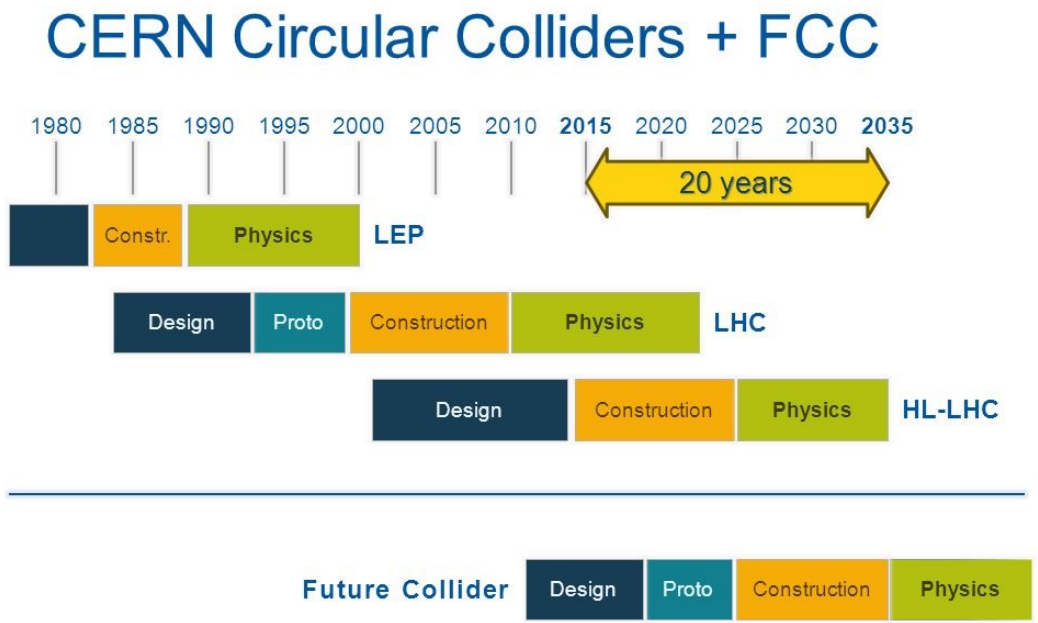


95 % of the mass-energy content of the Universe are **unknown** ‘dark energy’ and ‘dark matter’

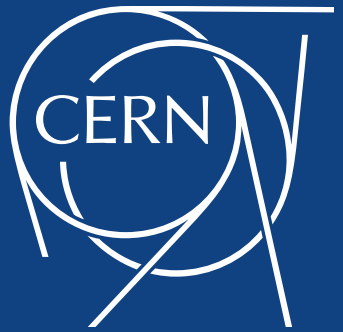


Why is there more matter than antimatter in the Universe?

The future of particle physics is being planned now!



Communicating with society is key!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